

The second volume contains the *Pterigraphia Americana* on 20 plates (Ferns, Mushrooms, etc.), published perhaps 1708. There are many insects, mostly from the Antilles. But there are also a number of undoubtedly N. American insects among them.

Pl. 11, fig. 10. *Pyrgota undata*? 11. Dipteron. 12. *Tabanus*. 13. *Musca*. 14. 15. *Mutilla*.

Pl. 12, 11-15. *Diptera*.

Pl. 13, 1. *Thalessa lunator*. 2. *Ophion*. 3. *Sirex*. 4. *Hymenopt.*

Pl. 14, 8 & 10. *Chauliodes serricornis*. 9. *Polystoechotes sticticus*.

Pl. 15, 7. *Chauliodes pectinicornis*. 8 & 9. *Diptera*.

Pl. 20, 14. Longicorn beetle.

The much later work of Catesby figures only 17 insects from North America.

#### NOTES ON APHIDIDÆ.

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*APHIS LONICERÆ* Monell. Riley & Monell, Notes on the Aphididæ, U. S. Geol. and Geogr. Survey, Vol. v., Jan., 1879, p. 6.

This species is the one mentioned by Prof. Thomas in the eighth Ill. Ent. Rept., p. 104, under the name of *Chaitophorus loniceræ* Mon'l Mss.

*PHORODON MAHALEK* Fonsc. This European species has been very abundant at the Missouri Botanical Gardens, St. Louis. I believe that it has not before been definitely reported as occurring in the United States.

*CHAITOPHORUS SMITHIÆ* Monell, l. c. p. 32.

*Chaitophorus salicicola* Thos. l. c.

*CALLIPTERUS* Koch.

Continued study of this genus has confirmed me in the opinion that the subdivision proposed by Passerini is impracticable. In this I am confirmed by Prof. Buckton in his valuable work on the British Aphides.

*C. ULMIFOLII* Monell, l. c. p. 29.

*C. ulmicola* Thos. l. c. p. 111.

*C. (MYZOCALLIS) HYPERICI* Thos.

This species was previously described by me as *APHIS HYPERICI* l. c.

p. 25. This insect is a typical Aphis and lives in clusters. So far as I know, all Callipterus are sporadic in habit.

*C. TRIFOLII* n. sp.

Apterous individuals : Tuberculate ; with capitate hairs.

Winged individuals : Dorsum without conspicuous tubercles. Third joint of antennæ twice as long as the fourth ; fourth and fifth joints sub-equal ; sixth and seventh joints sub-equal.

Wings : Marginal cell hyaline. Veins bordered with brown. Basal half of stigmal vein sub-obsolete and not thickened and dusky at base.

Length of body .04-.05, of wing .07, of antennæ .06 in. Clover leaves. June.

This species can be easily distinguished by the naked eye from *C. punctata*, by having the veins more robust, and shaded not only at tip but for their entire length.

The American species may be distinguished as follows. With regard to the species described by Fitch, see Riley & Monell, l. c. p. 28.

A. Dorsum of winged individuals with spine-like tubercles... *C. ulmifolii*

AA. Dorsum without spine-like tubercles.

a. Marginal cell dusky.

b. Middle tibiæ pale yellow. Femora pale yellow..... *C. Walshii*

bb. Tibiæ black. Apical portion of femora black..... *C. bella*

aa. Marginal cell hyaline.

b. Wings with transverse, shaded bands.

c. Abdomen with conspicuous dusky spots..... *C. discolor*

cc. Abdomen yellow, concolorous, or with very faint transverse bands... *C. asclepiadis*

bb. Wings sub-hyaline.

c. Nectaries distinct.

d. Wings not hyaline.

e. Sixth joint of antennæ half as long as seventh... *C. punctata*

ee. Sixth and seventh joints sub-equal..... *C. trifolii*

dd. Wings hyaline.

e. Apical joint of antennæ a little longer than the sixth, veins whitish... *C. hyalinus*

ee. Apical joint of antennæ three times as long as the sixth.

First and second discoidals black... *C. betulaecolens*

cc. Nectaries not perceptible.

- d.* Wings hyaline.....*C. caryac*  
*dd.* Veins bordered with brown.....*C. quercicola*

COLOPHA COMPRESSA (Koch.)

*Schizoneura compressa* Koch. Pflz. 1854.

*Byrsocrypta ulmicola* Fitch. Fourth N. Y. Rep't, 1858 §. 347.

*Thelaxes ulmicola* Walsh. Gen. Am. Aph. Proc. Phil. Ent. Soc.  
 1, 1862, p. 305.

American Entomologist, I, 1869, p. 224.

*Colopha ulmicola* Monell. C. E. ix, 1877, p. 102.

*Glyphina ulmicola* Thomas l. c. p. 142, 1879

*Colopha compressa* Lichtenstein. Les pucerons des ormeaux.  
 Feuille des Jeunes Naturalistes, 1880.

American Entomologist, iii., p. 76, 1880.

This insect has been referred to six different genera. The synonymy of this species up to 1877 has been discussed in the C. E., ix., 102.

The genus *Glyphina* was insufficiently characterized by Koch. The species upon which it was founded, *G. Betulae*, is referred to the genus *Vacuna* by Passerini (1863), Walker (1870) and Kaltenbach (1874) under the name of *V. alni* Schrank.

Some doubts existed as to whether intermediate forms would not be found connecting *Vacuna* and *Colopha*, as it has been found that the number of joints in the antennæ sometimes vary (see Lichtenstein, Entom. Monthly Mag., March, 1880), but Prof. Riley, who has investigated this subject with his usual ability, has succeeded from biological evidence in establishing the right of *Colopha* to rank as a separate genus.

According to Mr. Lichtenstein, of Montpellier, the true female of *Vacuna* has a rostrum and lives about a month sucking at the leaves. In *Colopha*, on the other hand, the true female has a rudimentary mouth and dies with the egg in the body. Judging by analogy with *Tetraneura*, it is probable that the true female lives but for a few days. The validity of the genus *Colopha* is acknowledged by Lichtenstein, Kessler, Loew and Fr. Thomas, but all of these gentlemen concur in considering the European *S. compressa* Koch identical with the American *B. ulmicola* Fitch.

TETRANEURA Hartig.

*Byrsocrypta* Hal (in part), nec Walsh.

Antennæ short, six-jointed.

Wings deflexed. Fore wings with four simple oblique veins. Hind wings with one oblique vein.

This genus has not been previously found in America. The only species known are *T. ulmi* Geoffr., *T. alba* Ratzb. and *T. rubra* Licht.

I have succeeded in raising *T. ulmi* at St. Louis from eggs sent to me by Mr. Kessler, of Cassel. They seemed to thrive the first season, but did not appear again the next year.

*T. GRAMINIS* n. sp.

Head and thorax dusky, abdomen dusky or sometimes of a greenish or yellowish tinge. Antennæ dusky, the third joint as long as the three following taken together; joints four and five equal; apical joint a little over half as long as the preceding. Wings hyaline. Subcostal of the hind wing comparatively straight.

Length of body .08, to tip of wings .12 in.

On leaves of *Aira caespitosa* and *Agrostis plumosa*, enveloped in a thick cotton-like secretion.

Sept.—Oct. St. Louis, Mo. Springfield, Mo. Neosho City, Mo.

*PEMPHIGUS ACERIS* n. sp.

Winged female: Head and thorax dusky, abdomen dusky, but appearing white from the abundant pulverulent matter. Antennæ long, slender; the apex of the fourth joint reaching the wing insertions; joints sub-cylindric, scarcely contracted at base, apical unguis not perceptible; fourth and fifth joints sub-equal, fourth joint not clavate, third joint less than the two preceding taken together.

Wings sub-hyaline, subcostal and oblique veins brownish black. Stigmatal vein arising behind the middle of the stigma. Venation closely resembling that of *P. acerifolii*, except that the base of the first discoidal is usually more remote from that of the second discoidal. Length 0.12—0.15, to tip of wings 0.20—0.22 in. On the under side of limbs of Hard Maple, enveloped in woolly matter. Peoria, Ill. June (Miss E. A. Smith). A comparison of about fifty species, each, of *P. aceris* and *P. acerifolii*, shows that the antennal differences between the two are quite constant.